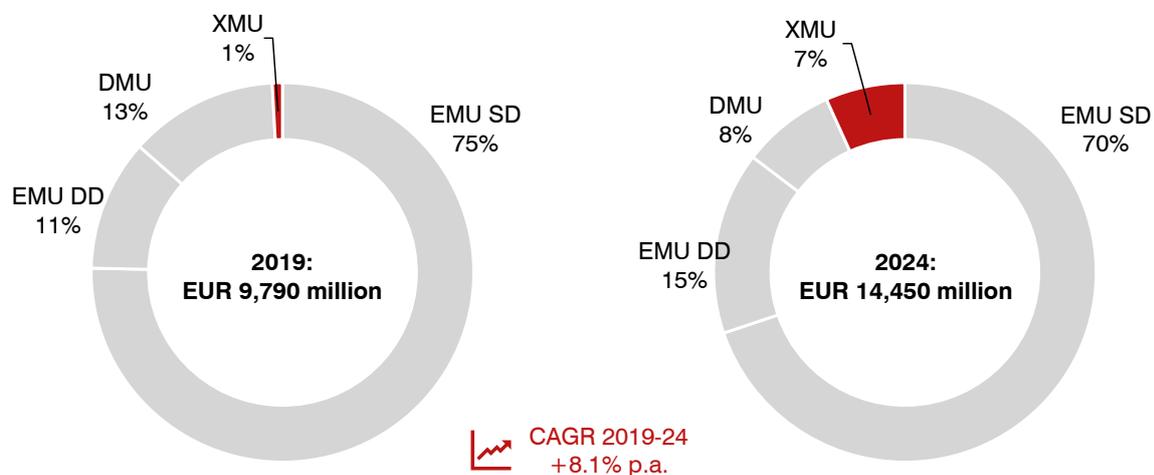


World market for multiple units: end of diesel trains initiated?

Hydrogen and battery multiple units nearing breakthrough despite corona uncertainties

[10.08.2020] With the commissioning of the first larger fleet of trains powered by alternative propulsion systems, the decarbonisation in rail transport is currently gaining momentum. Based on numerous orders, a transition phase that will fundamentally transform catenary-free rail transport will be initiated in the coming years. New orders for multiple units powered by hydrogen or battery technology will catch up with orders for diesel multiple units by the middle of the decade. In the current MultiClient Study “Multiple Units – Global Market Trends”, SCI Verkehr GmbH presents insights into these and other developments in a market environment that has been affected in very different ways by the current COVID-19 pandemic and is also confronted with developments such as the collapsing number of passengers in local public transport. Despite the corona related influences, SCI Verkehr sees growth in the overall market for regional and suburban trains in the next few years, triggered by rising delivery figures for electric multiple units with a high proportion of double-deck vehicles.

Global multiple unit market – development per segment [OEM in EUR million]



EMU SD: Single-deck electric multiple-unit train
 EMU DD: Double-deck electric multiple-unit train
 DMU: Diesel multiple-unit train
 XMU: Alternatively driven multiple-unit train, usually hydrogen- or battery-supported

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The global market for new multiple units is characterised by a high volume of currently almost EUR 9.8 billion and a dynamic growth perspective of 8.1% p.a. until 2024. With more than 85%, the market for electric multiple units accounts for a significant share of this growth. Driven by a high number of vehicle deliveries of regional and suburban trains in some core markets (e.g. UK, Germany, France, Australia), these countries in particular promise continued high procurement levels. In addition, markets such as Italy, Switzerland and China

are showing increasing investment activity with expected higher procurement volumes of EMUs in the coming years. The high growth rate combined with rising demand for modern (double-deck) multiple units is mainly due to electrification projects, fleet expansion with capacity increases, new tenders for important concessions with new rolling stock procurement and the replacement of older rolling stock.

The new vehicle business for diesel multiple units, including the alternatively powered multiple units (XMU), currently amounts to approx. EUR 1.3 billion and is expected to grow at an even higher annual rate of almost 10% until 2024. This is due to the increasingly larger purchases of XMU fleets in some core markets of Western Europe, especially in Germany. The premise for the breakthrough of XMUs and thus the replacement of diesel-powered new vehicles is not only a significant cost amortisation of the currently heavily subsidised vehicles, but also further technological development with regard to the service life and range of the fuel cell or battery installed. Hydrogen multiple units (HMU) have been successfully introduced in Germany; battery-powered electric multiple units (BEMU) are about to enter passenger service. Various transport authorities, particularly in Western Europe and Japan, are vigorously promoting climate-friendly diesel alternatives with the help of governments. Numerous orders for both HMUs and BEMUs demonstrate this development.

A total of over 6,500 multiple units have been delivered worldwide in the past five years. Alstom and Bombardier share the leading position almost equally, each with around 15% - while Bombardier leads the market for electric multiple units (EMU), Alstom is the clear market leader in the diesel segment. Alstom's acquisition of Bombardier's train business will significantly increase their combined share and will make the new group by far the leading future global supplier of multiple units. In this context, manufacturers such as Siemens or Stadler can be expected to expand their market position in the future. Based on an assumed high demand for new EMUs in China, CRRC will further increase its market share, also thanks to increasing export activities, e.g. to Africa or the European market.

The market study "[Multiple Units - Global Market Trends](#)" is now available in English from SCI Verkehr GmbH (www.sci.de/shop/). A data annex in Excel format is also available for the study, which presents all the figures contained in the study in a transparent and clear manner.

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